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PATENT & TRADEMARK OFFICE

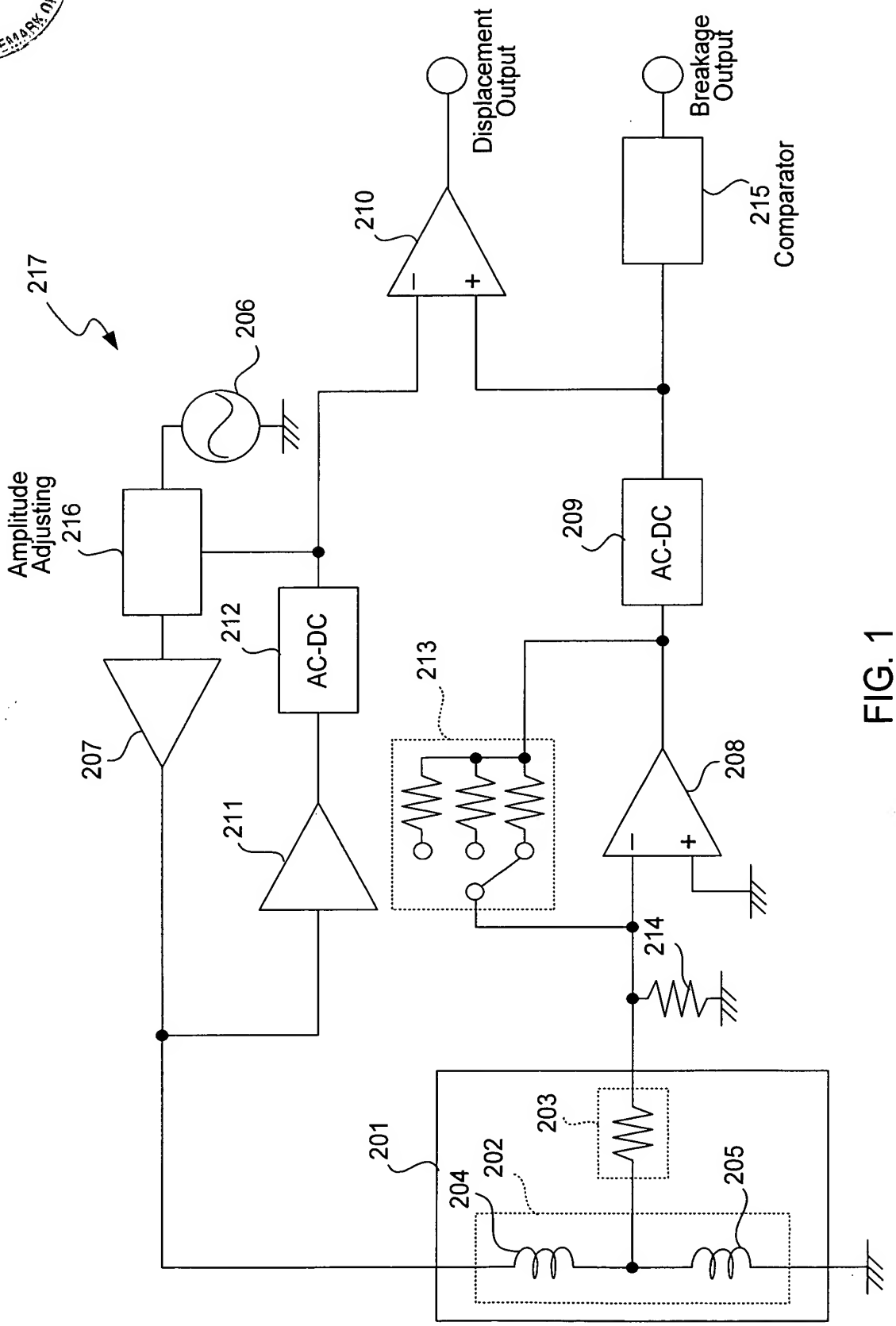


FIG. 1

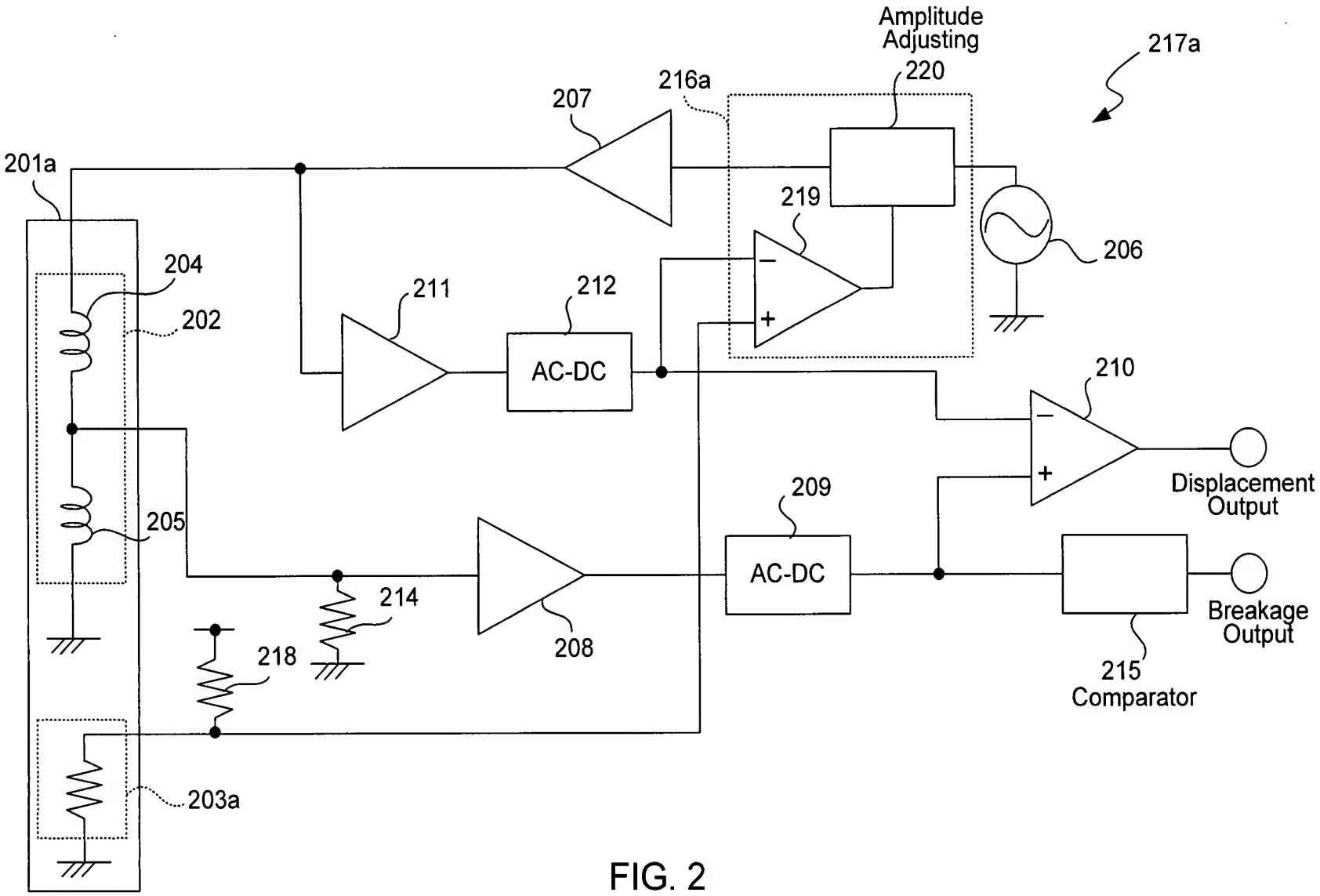
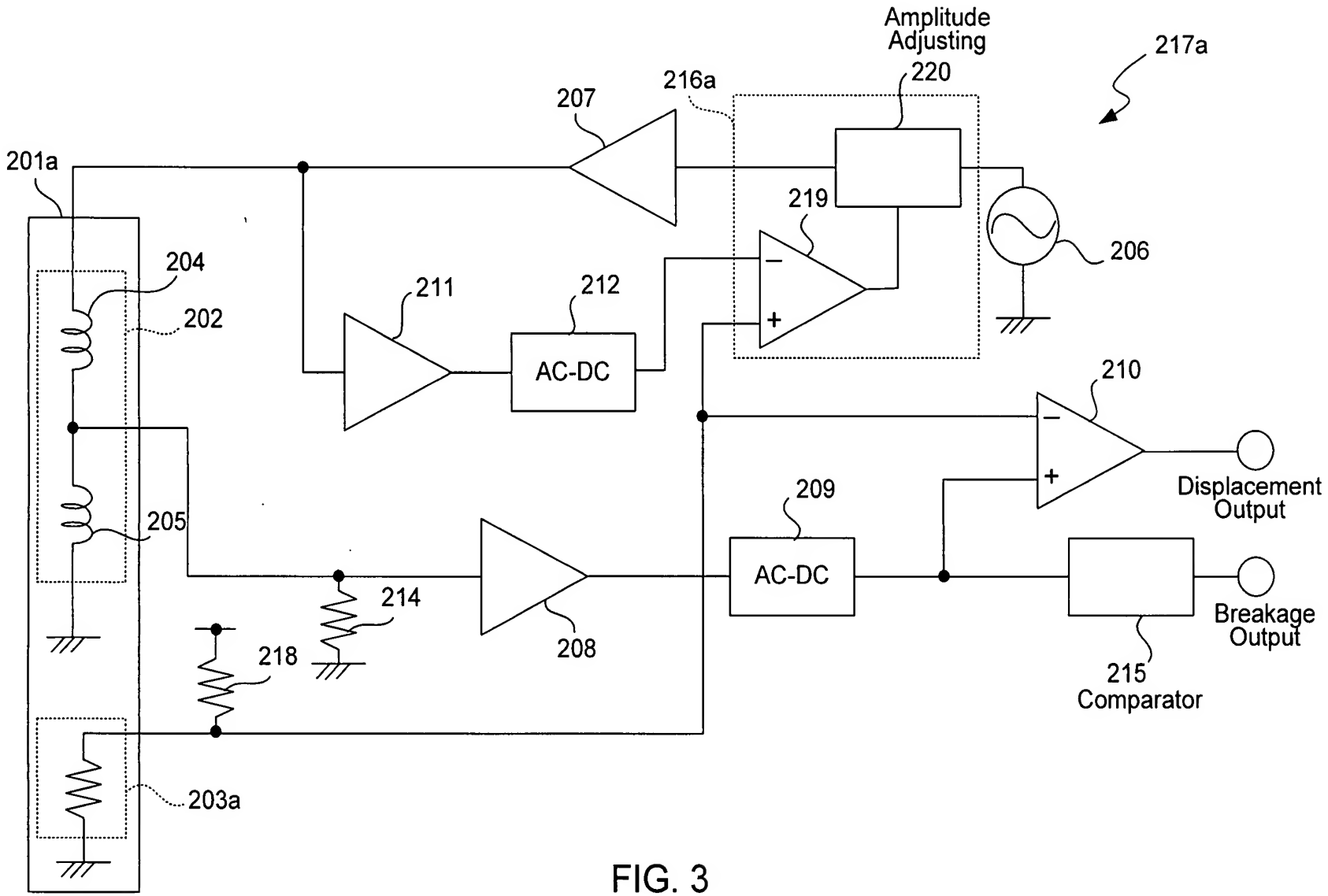

Amplitude
Adjusting
220
217a
216a
207
201a
219
206
204
202
211
212
AC-DC
210
Displacement
Output
205
209
AC-DC
214
208
218
Breakage
Output
215
Comparator
203a

FIG. 2


Amplitude
Adjusting
220
217a
216a
207
201a
219
206
204
211
212
202
AC-DC
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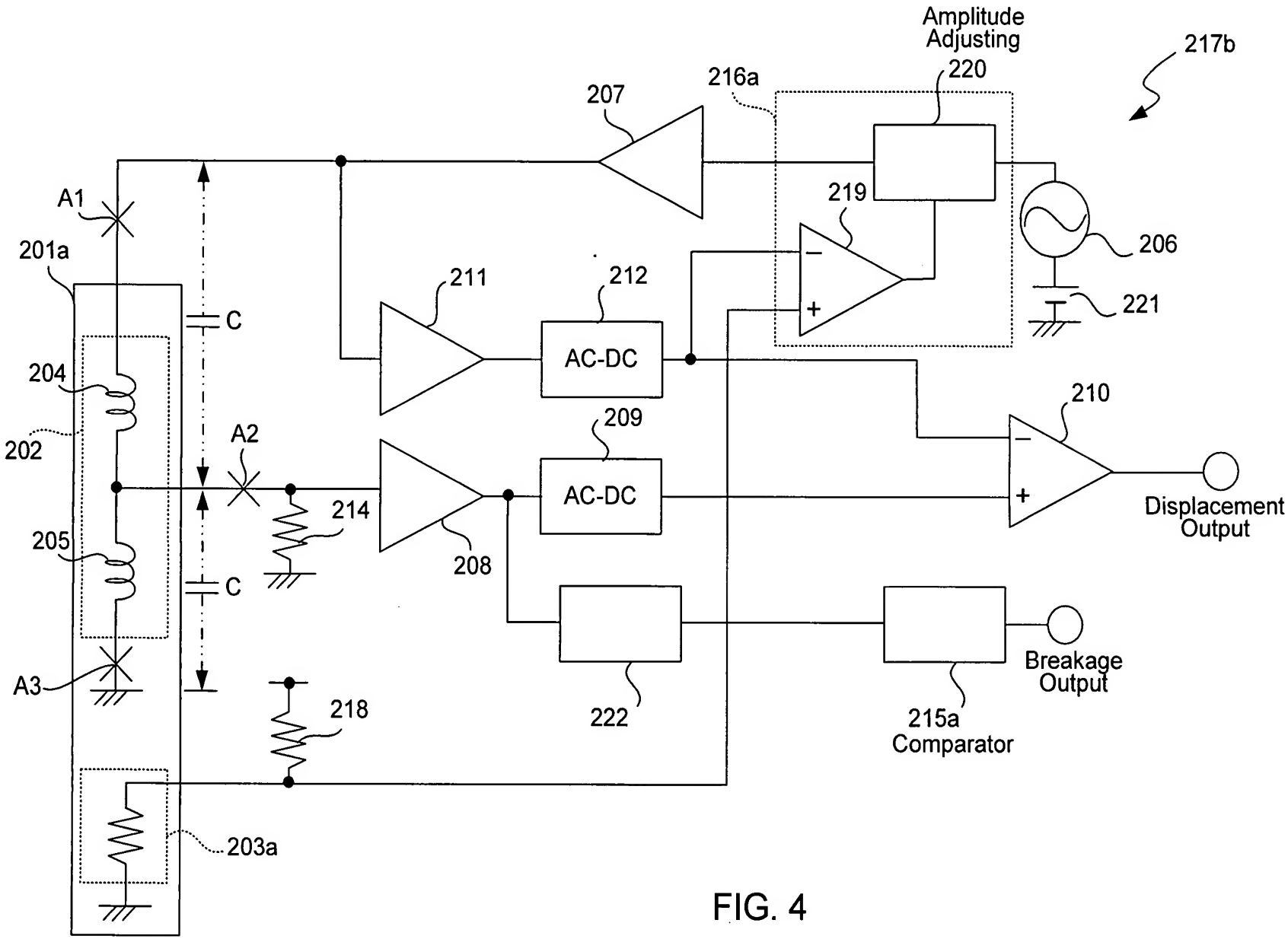
205
209
Displacement
Output
AC-DC
214
208
218
Breakage
Output
215
Comparator
203a

FIG. 3


Amplitude
Adjusting
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220
216a
207
219
206
221
A1
201a
211
212
C
AC-DC
204
210
209
A2
202
AC-DC
214
Displacement
Output
205
208
C
A3
Breakage
Output
218
222
215a
Comparator
203a

FIG. 4

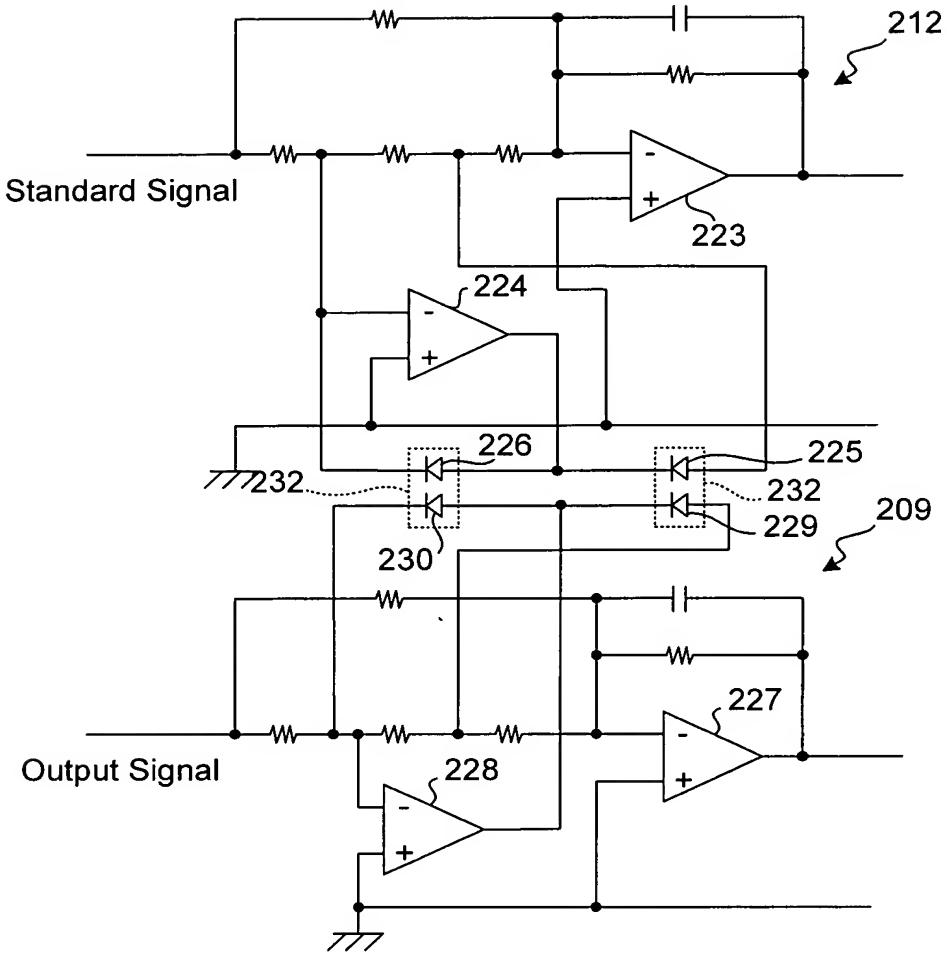


FIG. 5

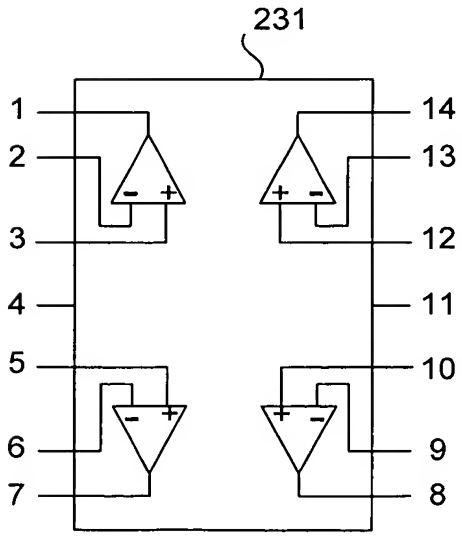


FIG. 6

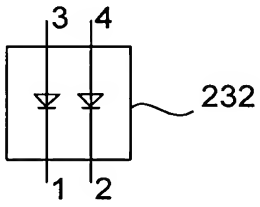
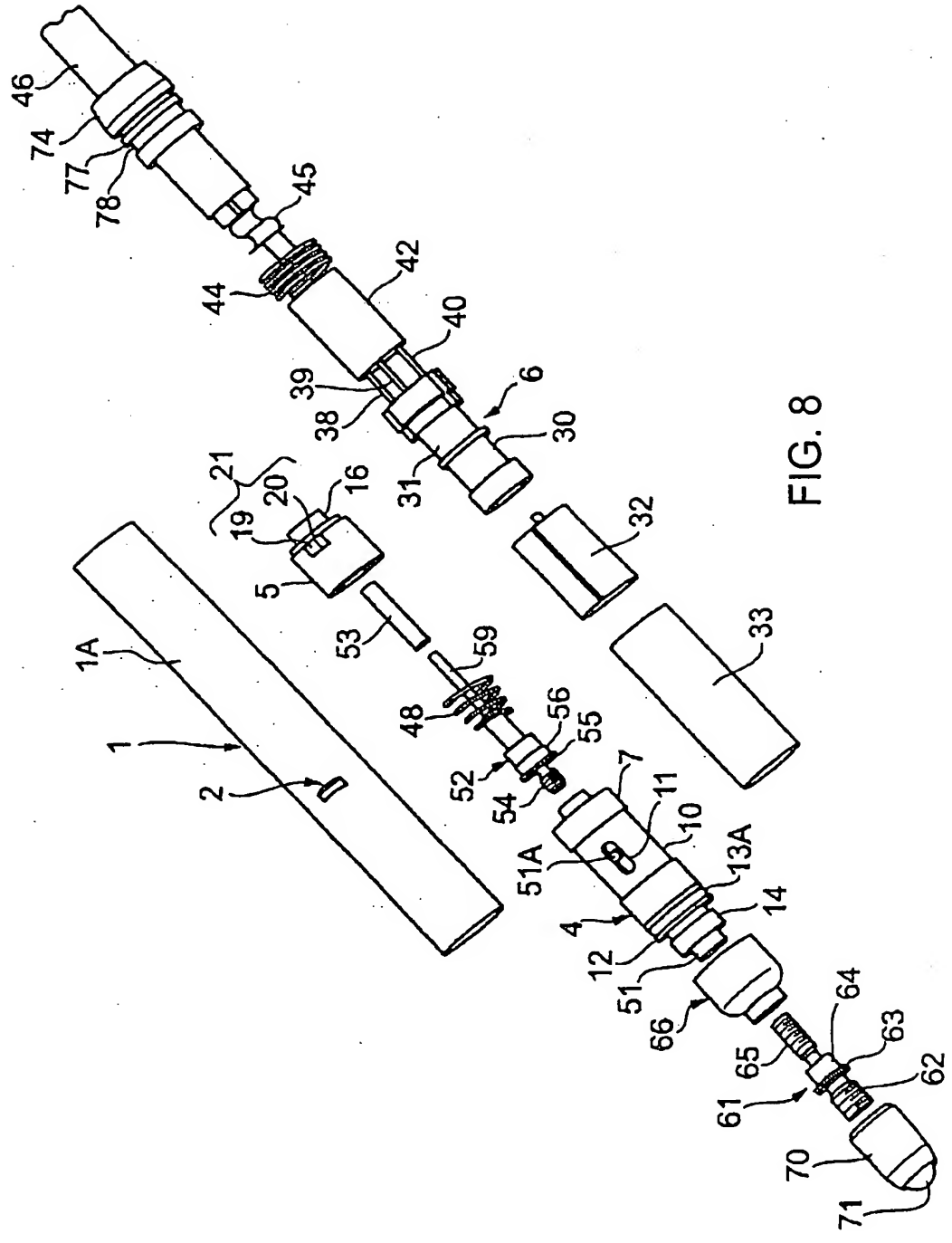


FIG. 7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16
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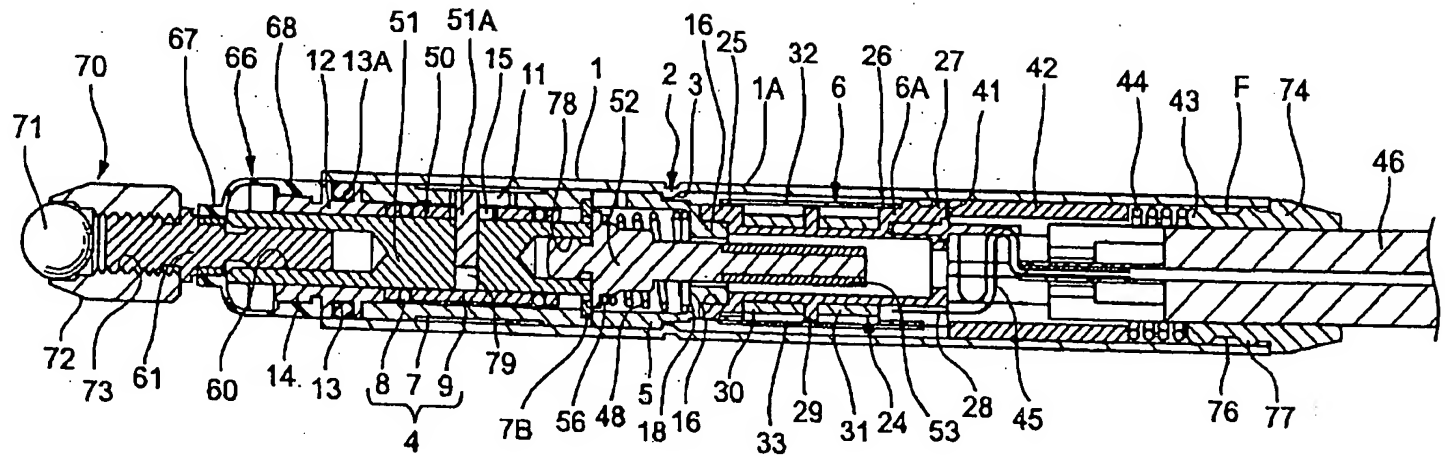
32
53
59
33
1A
48
56
55
1
52
54
7
11
2
10
51A
13A
4
14
12
51
66
64
65
63
61
62
70
71

FIG. 8


70
71
67
66
68
12
13A
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51A
50
15
11
78
1
52
2
3
16
25
1A
32
6
26
6A
27
41
42
44
43
F
74
46
72
73
61
60
14
13
8
7
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7B
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48
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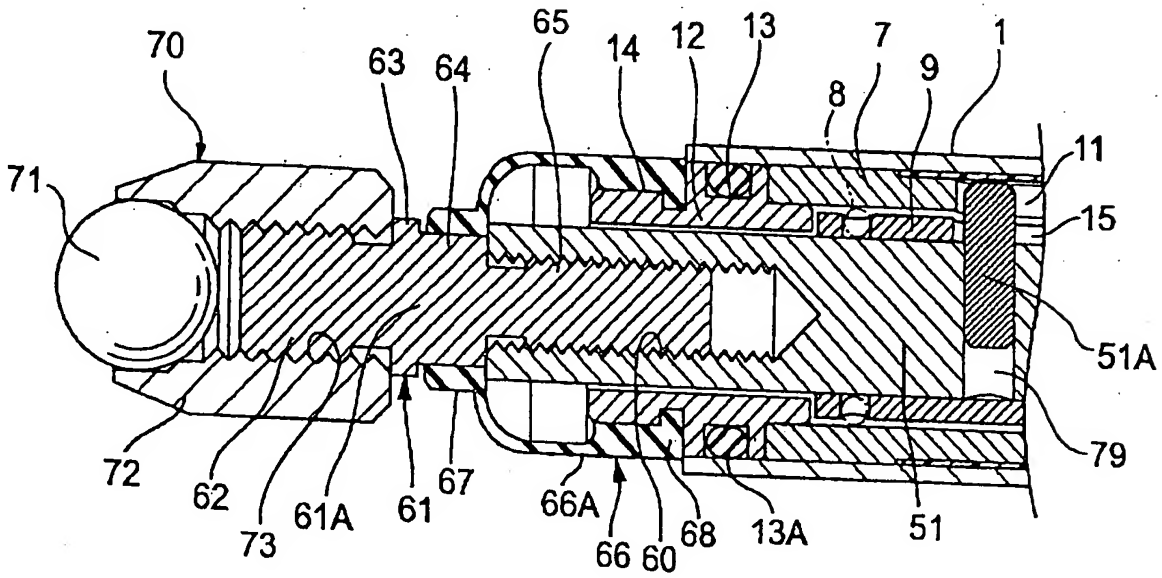
FIG. 9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73
61A
61
67
66A
66
60
68
13A
51

FIG. 10

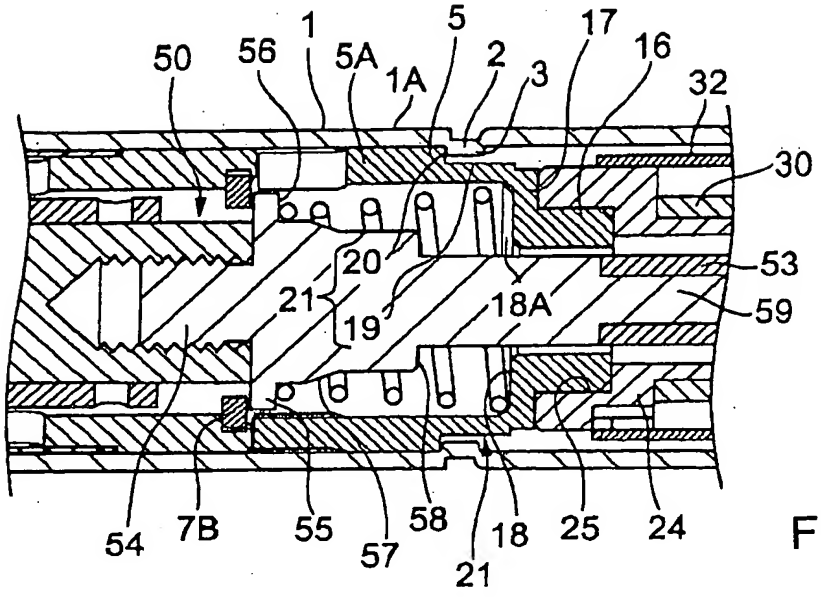


FIG. 11

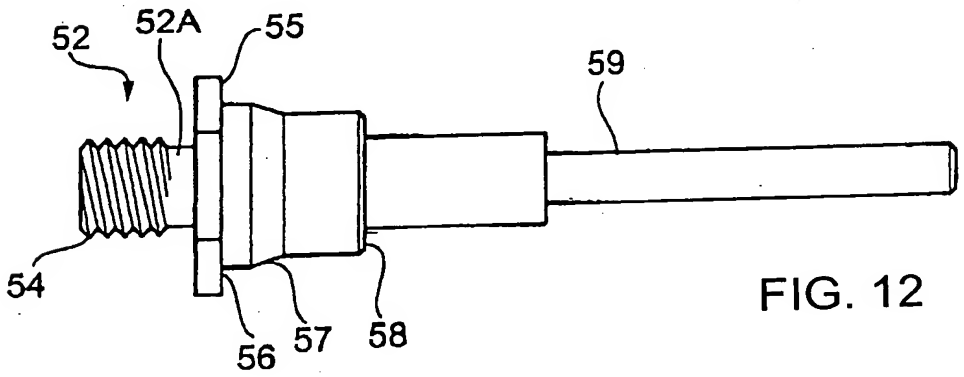


FIG. 12

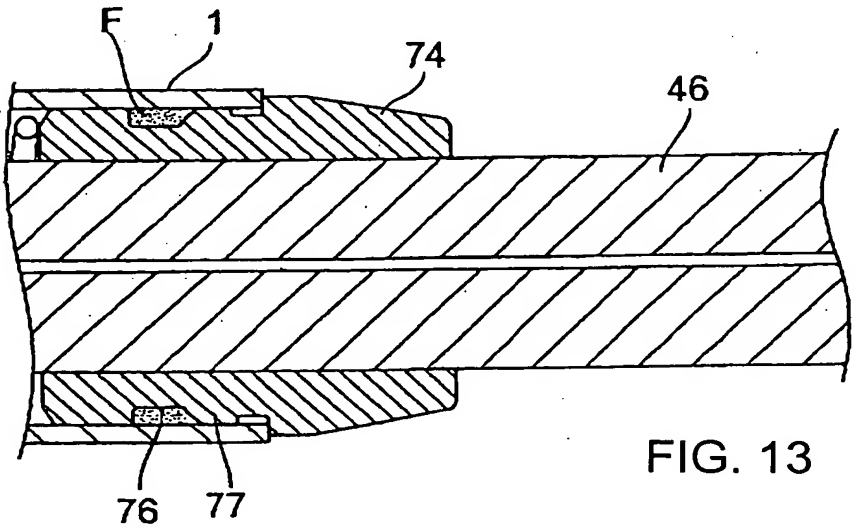


FIG. 13

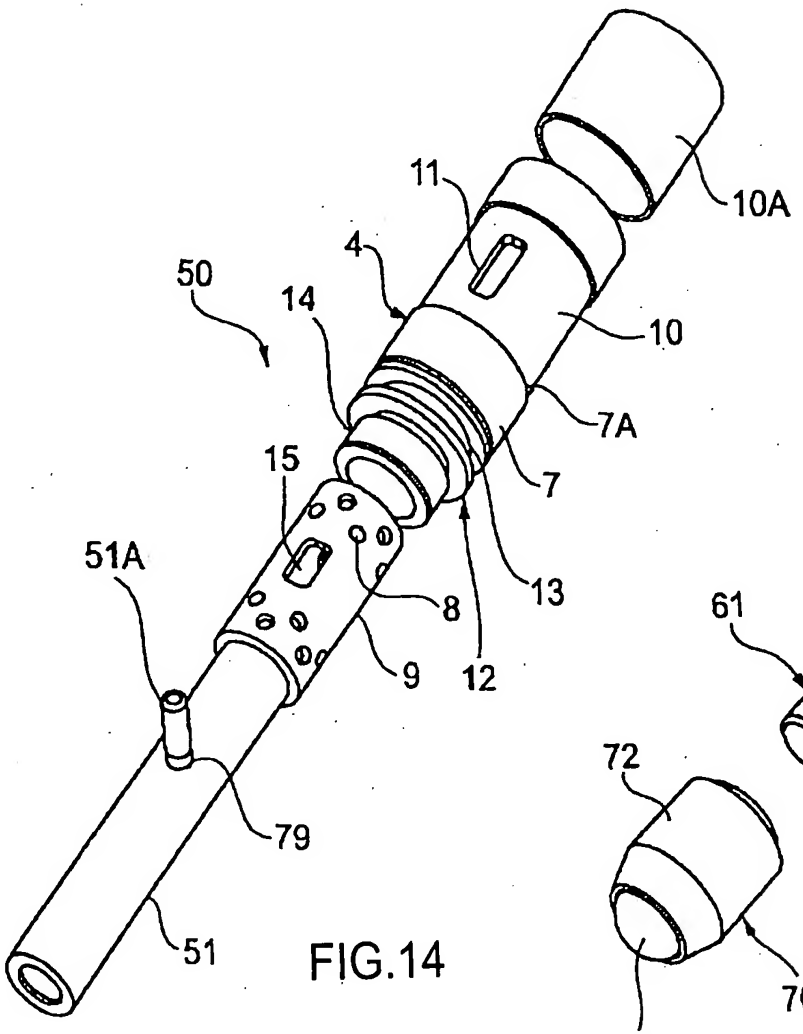

11
10A
4
50
14
10
7A
15
7
51A
13
8
9
12
79
51

FIG.14

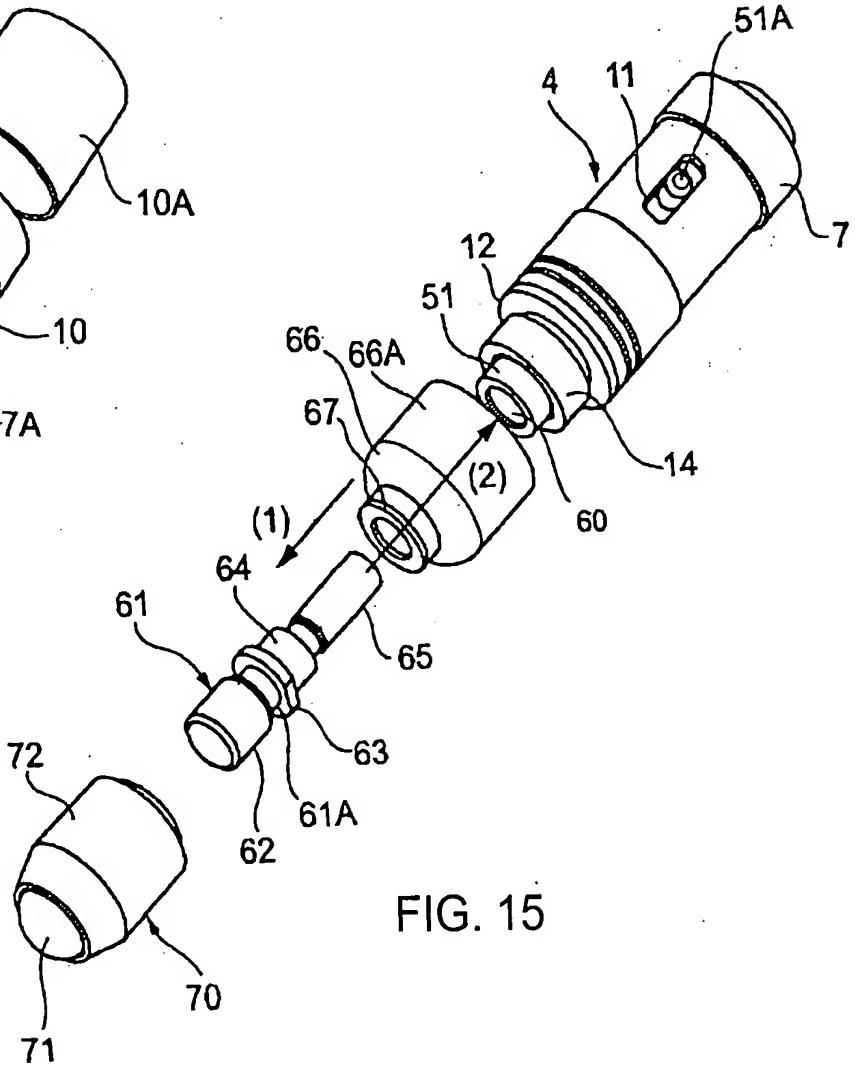

51A
4
11
7
12
51
66
66A
67
14
(2)
60
(1)
64
61
65
63
61A
62
72
70
71

FIG. 15

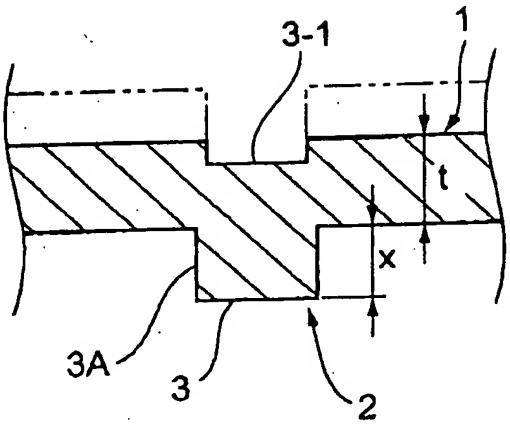


FIG. 16

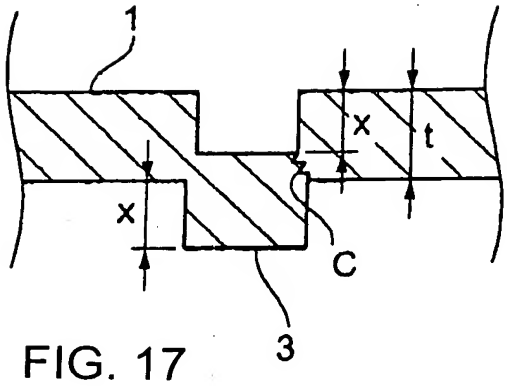


FIG. 17

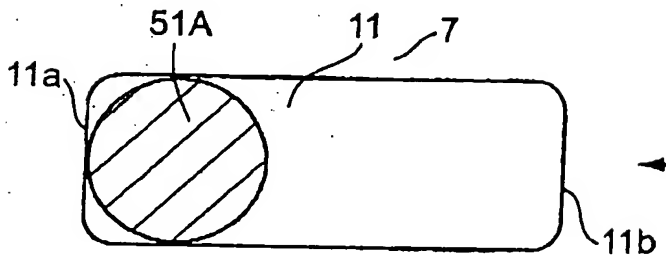


FIG. 18

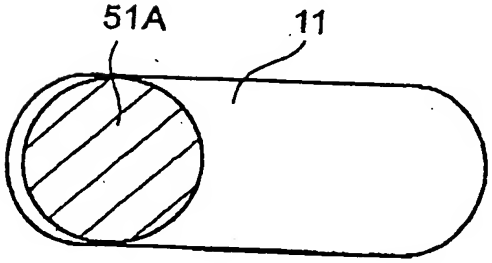


FIG. 19A

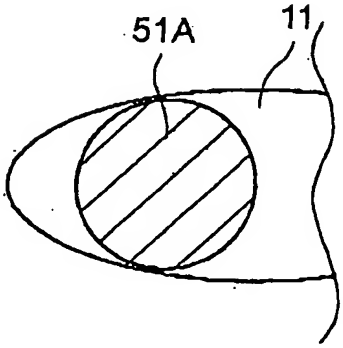


FIG. 19B

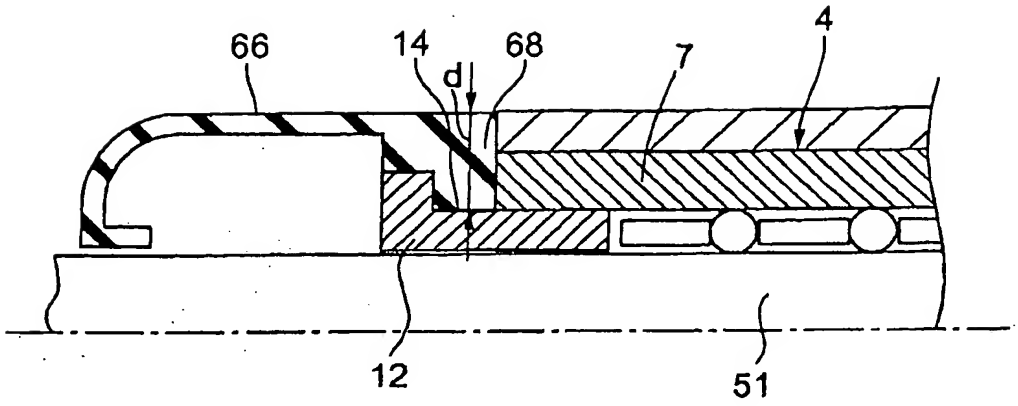


FIG. 20

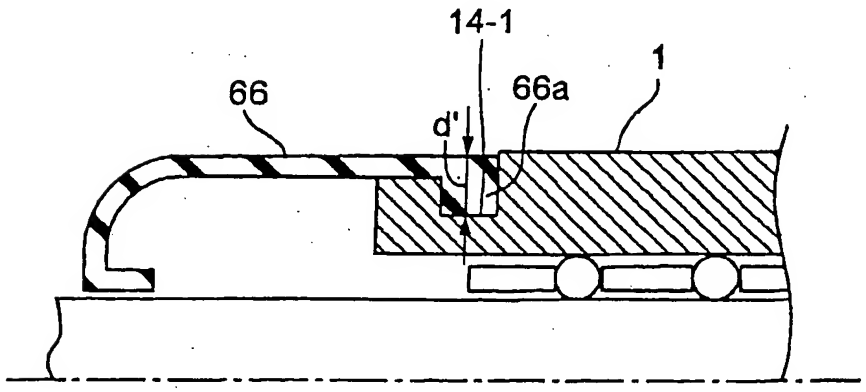


FIG. 21
(PRIOR ART)

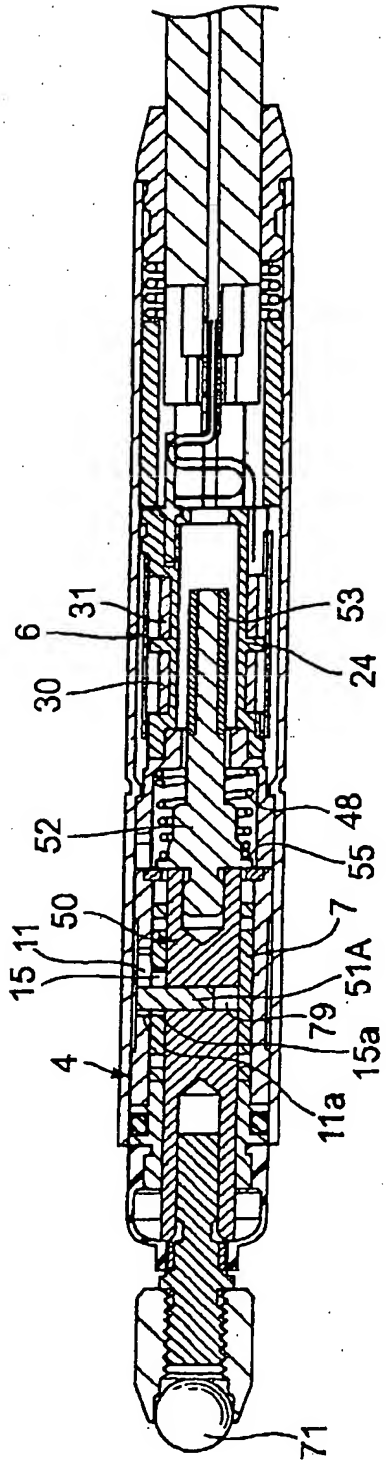


FIG. 22A

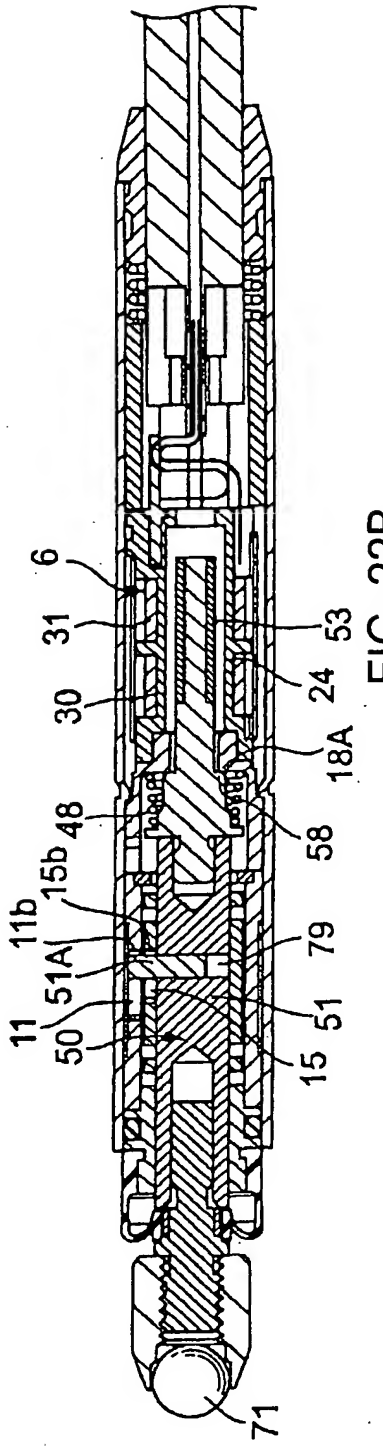


FIG. 22B

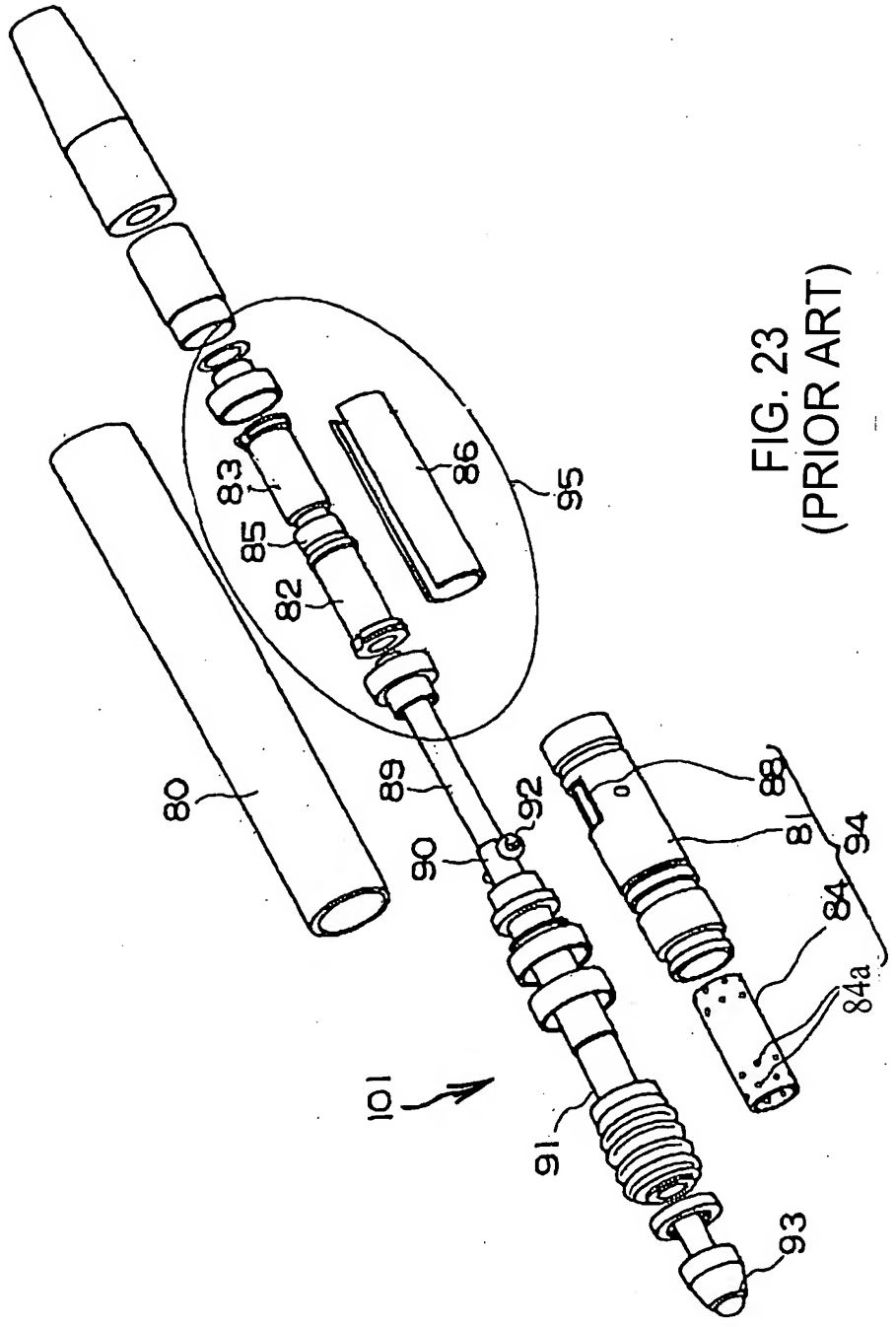


FIG. 23
(PRIOR ART)

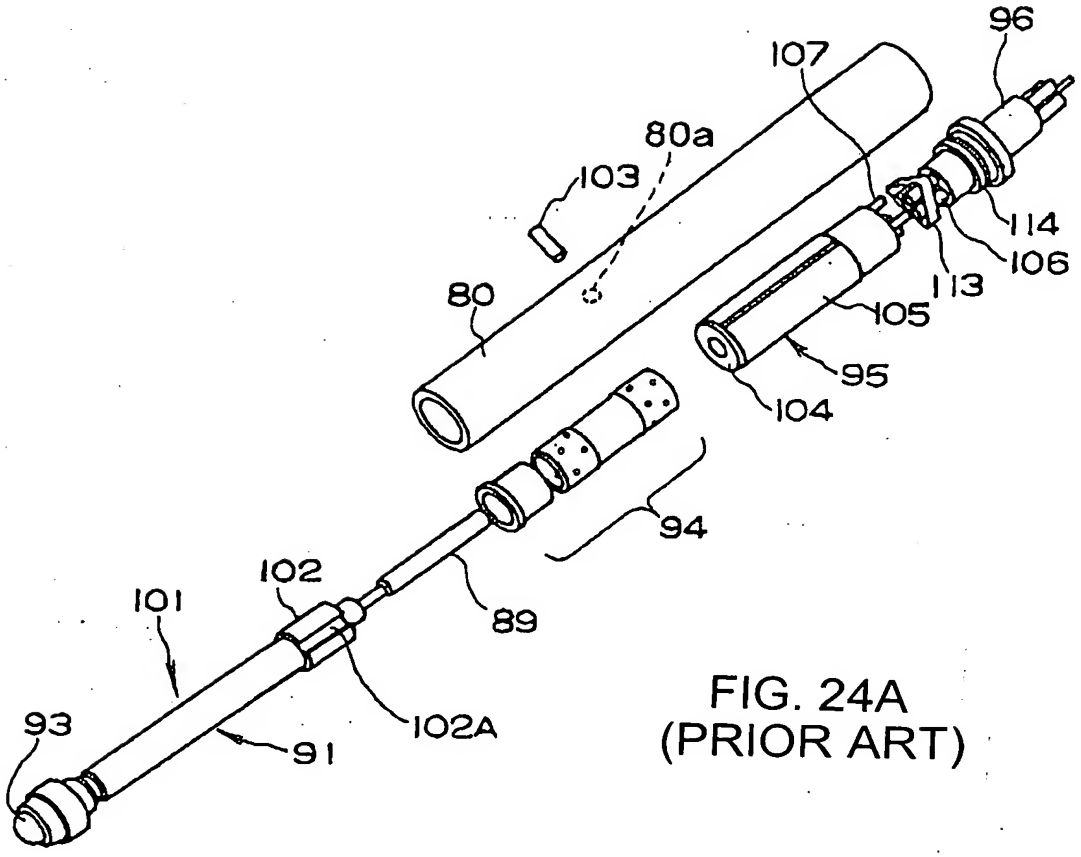


FIG. 24A
(PRIOR ART)

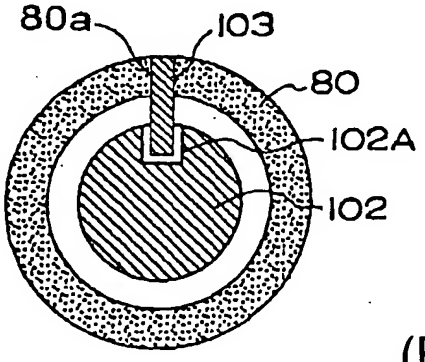


FIG. 24B
(PRIOR ART)

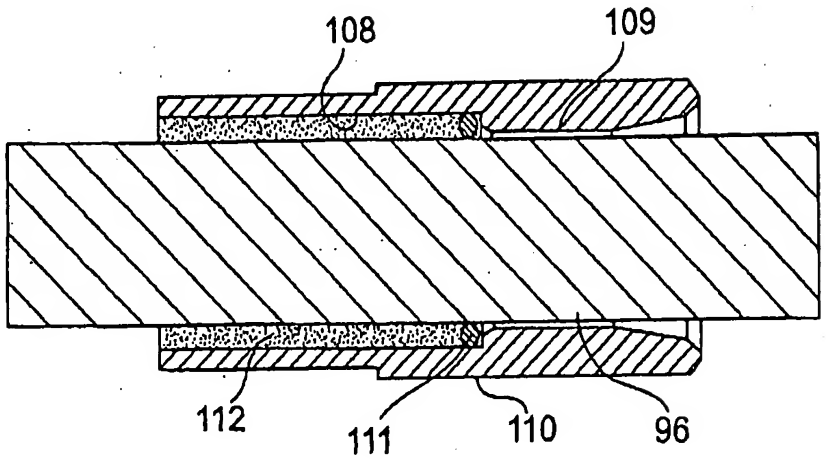


FIG. 25
(PRIOR ART)

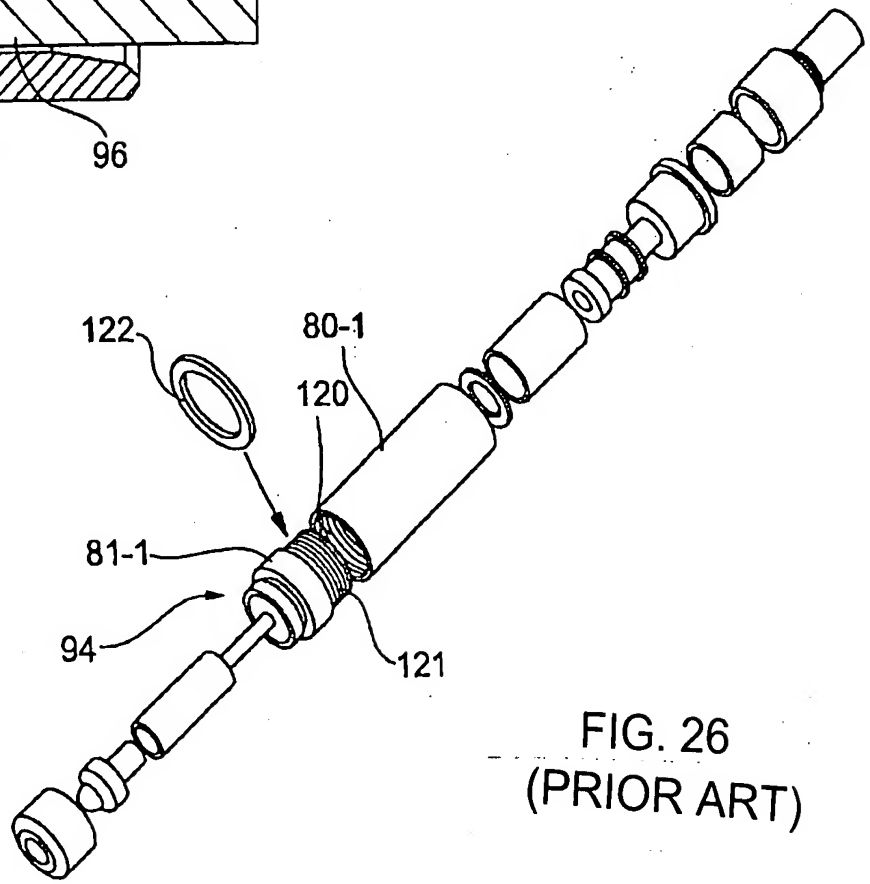


FIG. 26
(PRIOR ART)

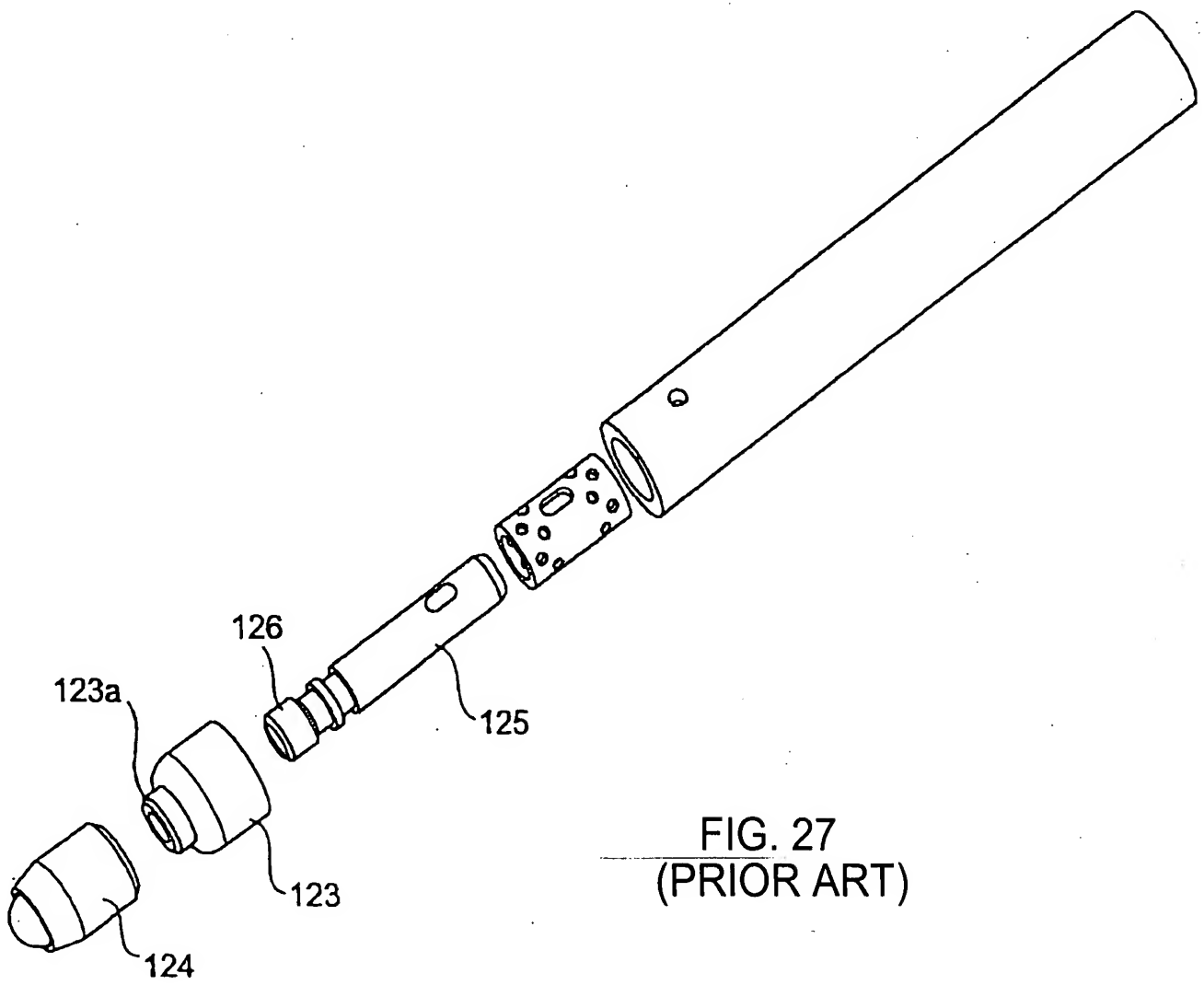
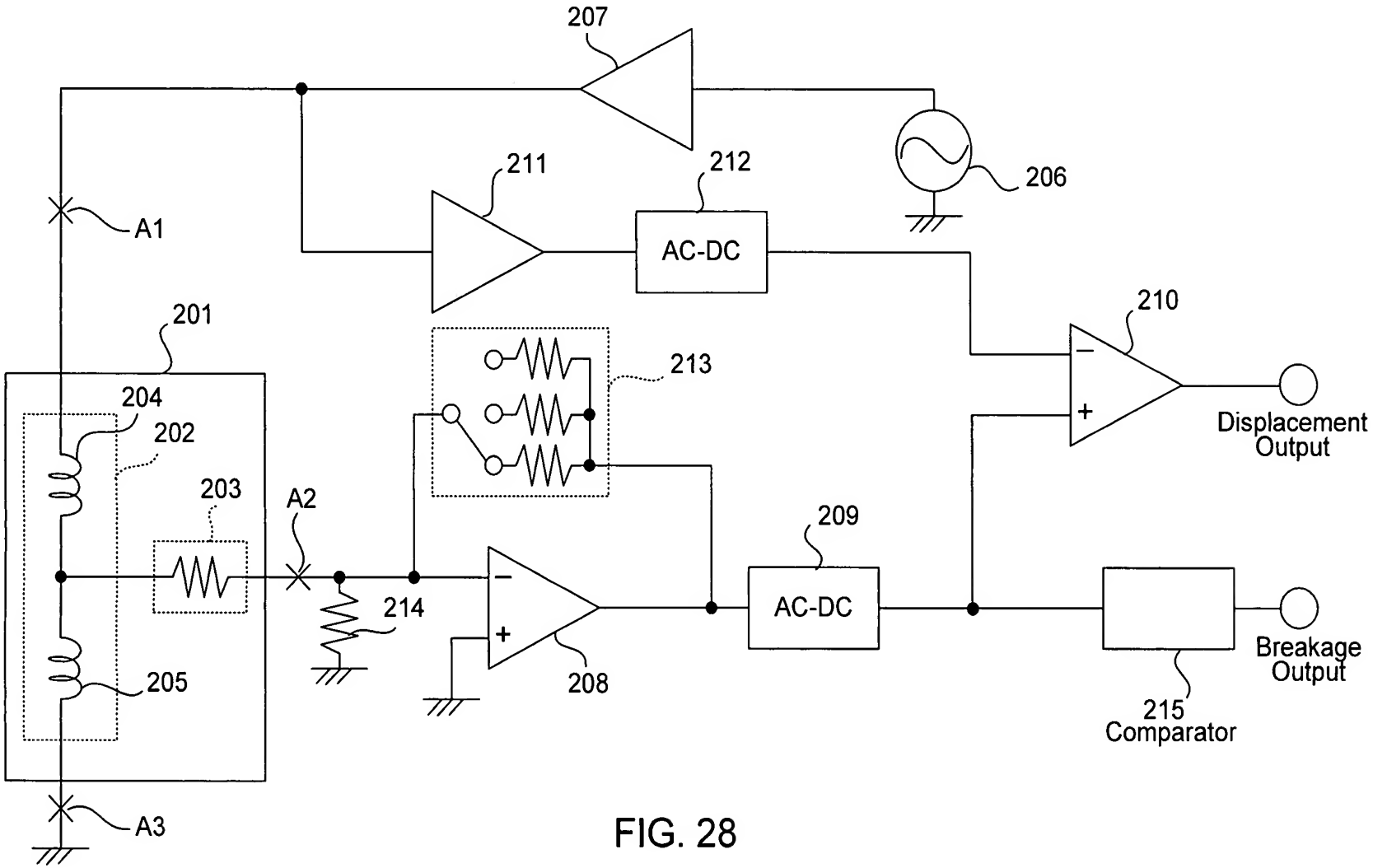


FIG. 27
(PRIOR ART)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A1
AC-DC
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210
213
204
202
203
A2
209
214
AC-DC
Displacement
Output
205
208
Breakage
Output
215
Comparator
A3

FIG. 28